

23 Aug 1990

AN1KT-A
ANALYZER, SPECTRUM

1. GENERAL. This procurement requires a portable RF spectrum analyzer with a GPIB interface.

2. CLASSIFICATION. Type II, Class 5, Style D, and Color R in accordance with MIL-T-28800 for shipboard applications. The tilt-bail handle requirement is invoked.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of spectrum analysis within the following minimum specifications.

3.1 Frequency specifications.

3.1.1 Center frequency range. 10 kHz to 1.8 GHz.

3.1.2 Tuning accuracy. $5 \times 10^{-7} \pm 700$ Hz.

3.1.3 Span/division. 1 kHz to 180 MHz and zero span. Accuracy: $\pm 3\%$.

3.1.4 Residual FM. ± 100 Hz peak to peak in 20 us for span/div ≤ 20 kHz/div.

3.1.5 Resolution bandwidth. 300 Hz to 5 MHz.

3.1.6 Shape factor. $\leq 7:1$.

3.1.7 Video filters. 3 Hz to 300 kHz.

3.2 Amplitude specifications.

3.2.1 Measurement range. -115 to +20 dBm.

3.2.2 Display range. 80 dB.

3.2.3 Display amplitude accuracy. ± 2 dB over 80 dB range.

3.3 Distortion specifications.

3.3.1 Second harmonic distortion. -65 dBc with -30 dBm into mixer and 0 dB attenuation.

3.3.2 Third order products. -70 dBc with -20 dBm input signals and 10 dB attenuation.

3.4 Input specifications.

3.4.1 Attenuation. 0 to 50 dB in 2 dB steps.

3.4.2 Impedance. 50 ohms, N(f) connector.

3.4.3 Maximum input. +20 dBm continuous with 0 dB attenuation.

3.5 Sweep characteristics.

3.5.1 Sweep time. 1 usec to 2 sec/div. Accuracy: $\pm 10\%$ over the center 8 divisions.

3.5.2 Sweep modes. Automatic and manual.

3.5.3 Trigger modes. Free run, single, line, video, external.

3.6 Display. 8 x 10 division CRT with 0.2 subdivision markings.

3.7 Digital storage. 8 front-panel setups and displays in nonvolatile memory.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal power source requirements are invoked. 400 Hz operation is not required. Maximum power consumption: 100W.

4.2 Weight. 20 kg (44 lb) maximum.

4.3 Digital interface. A digital interface in accordance with MIL-T-28800 shall be provided.

4.4 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.5 Calibration interval. 12 months minimum. End-of-interval confidence factor: 72%.